Office of Science
Statement on Digital Data Management

Biological and Environmental Research Advisory Committee Meeting

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Brief History

- **COMPETES 2010 "Interagency Public Access Committee"**
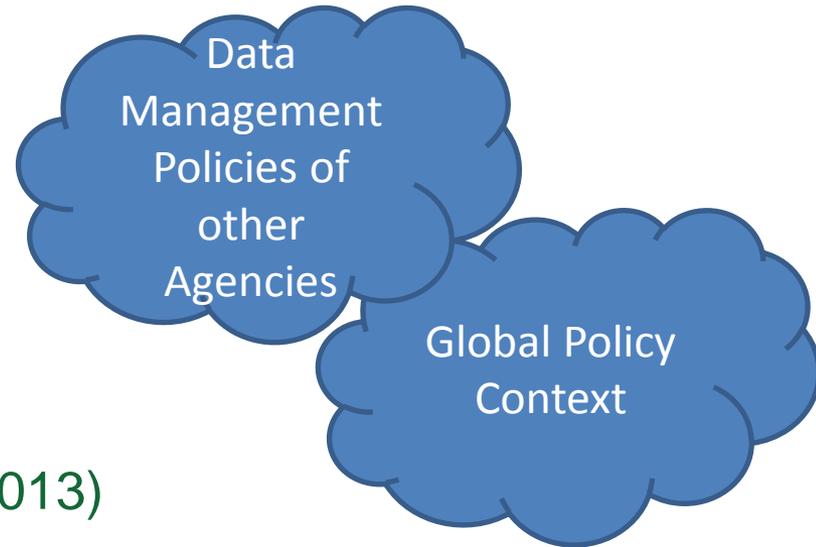
- SC Working Group on Digital Data

- FACA Reports (2011)

- OSTP Request for Information (2012)

- Office of Science User Facility Input (2013)

- **OSTP Memo "Increasing Access to the Results of Federally Funded Scientific Research" (2013)**

- *DRAFT* OFFICE OF SCIENCE STATEMENT ON DIGITAL DATA MANAGEMENT (PRESENT)

Data Management Policies of other Agencies

Global Policy Context

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Approach

- We want to have a policy that is specific to Office of Science needs and mission, providing a clear statement of goals and expectations from the Office of Science

- We want to give programs within the Office of Science maximum flexibility in tailoring implementation of the policy

- We want to be consistent with Administration guidance and take into account input from community and public

- We do not want to overburden our research communities with a policy that is inconsistent with policies of other research funding agencies

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- Is consistent with recent OSTP guidance on "*Increasing Access to the Results of Federally Funded Research*" http://www.whitehouse.gov/blog/2013/02/22/expanding-public-access-results-federally-funded-research
  - →Requirement for Data Management Plan

- Requirements will apply to all proposals for research funding regardless of institution <u>but</u>
  - NOT to SBIR/STTR awards and
  - NOT to applications for time on user facilities

- Requirements will apply to proposals submitted in response to all Office of Science research solicitations and invitations for new, renewal, and some supplemental funding issued on or after October 1, 2013

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Clarifications

- ## What is data management?

  Data management reflects all stages of the data lifecycle. Focus here is on data sharing and preservation

- ## Who will be impacted by this policy?

  Stated requirements are for PIs and research institutions but reviewers and program staff will have new responsibilities

- ## Which data?

  Focus here is *digital research data*

Definitions

Digital Research Data:

The term *digital data* encompasses a wide variety of information stored in digital form including: experimental, observational, and simulation data; codes, software and algorithms; text; numeric information; images; video; audio; and associated metadata. It also encompasses information in a variety of different forms including raw, processed, and analyzed data, published and archived data.

This statement focuses on *digital research data,* which are *research data* that can be stored digitally and accessed electronically. OMB Circular A110 defines *research data* as follows:

"Research data is defined as the recorded factual material commonly accepted in the scientific community as necessary to validate research findings, but not any of the following: preliminary analyses, drafts of scientific papers, plans for future research, peer reviews, or communications with colleagues. This 'recorded' material excludes physical objects (e.g., laboratory samples). Research data also do not include:

(A) Trade secrets, commercial information, materials necessary to be held confidential by a researcher until they are published, or similar information which is protected under law; and

(B) Personnel and medical information and similar information the disclosure of which would constitute a clearly unwarranted invasion of personal privacy, such as information that could be used to identify a particular person in a research study."

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Summary: Office of Science Statement on Digital Data Management

Principles

- Effective data management has the potential to increase the pace of scientific discovery and promote more efficient and effective use of government funding and resources. Data management planning should be an integral part of research planning.

- Sharing and preserving data are central to protecting the integrity of science by facilitating validation of results and to advancing science by broadening the value of research data to disciplines other than the originating one and to society at large.

- Not all data need to be shared or preserved. The costs and benefits of doing so should be considered in data management planning.

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Summary: Office of Science Statement on Digital Data Management

Requirements (1 of 3)

- To integrate data management planning into the overall research plan, **all proposals submitted to the Office of Science for research funding are required to include a Data Management Plan (DMP)** that describes how data generated through the course of the proposed research will be shared and preserved or explains why data sharing and/or preservation are not possible or scientifically appropriate. At a minimum, DMPs must describe how data sharing and preservation will enable validation of results, or how results could be validated if data are not shared or preserved.

DMPs will be reviewed as part of the overall Office of Science research proposal merit review process.

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Requirements (2 of 3)

- **<u>DMPs must provide a plan for making all research data displayed in publications resulting from the proposed research digitally accessible at the time of publication</u>**. This includes data that are displayed in charts, figures, images, etc. This requirement could be met by including the data as supplementary information to the published article, or through other means. The published article should indicate how these data can be accessed.

Requirements (3 of 3)

- In determining the resources needed for data management, **researchers that plan to work at an Office of Science User Facility as part of the proposed research should consult the published data policy of that facility** and reference it in the DMP. DMPs that explicitly or implicitly commit data management resources at a facility beyond what is conventionally made available to approved users should be accompanied by written approval from that facility.